

U.S. EPA REGION VIII
TECHNICAL ENFORCEMENT PROGRAM
RCRA CORRECTIVE ACTION ASSESSMENT REPORT

Facility: ASARCO East Helena Plant
100 Smelter Road
East Helena, MT

Facility Contact: Blaine Cox
Facility Manager

Telephone Number: (406) 227-45

EPA I.D. No.: MTD006230346

Notification Status: LQG

Inspection Type: Corrective Action Assessment Inspection

Date: May 8, 2007

Time In: 7:10 a.m.
Time Out: 3:10 p.m.

Date: May 11, 2007

Time In: 11:30 p.m.
Time Out: 7:30 p.m.

Weather: Warm, Clear

EPA

Representative: Linda Jacobson
EPA Inspector

Facility

Representatives: Jon Nickel, ASARCO Environmental Manager
Blaine Cox, ASARCO Facility Manager
Greg Bryce, Hydrometrics
Juliann Clum, Hydrometrics

Background:

This inspection was a prearranged corrective action assessment inspection. Ms. Jacobson, EPA inspector, arrived at the facility at 7:10 a.m. and joined Mr. Blaine Cox, Facility Manager, in the employee lunch room. Admittance to the site was gained by consent as noted on the attached Notice of Inspection (NOI) form (Attachment 1). A photo log and photographs are attached to this report as Attachment 2.

Pursuant to a 1998 federal RCRA Consent Decree ("CD"), EPA is the lead agency for implementation of corrective action activities at the ASARCO East Helena smelter facility. The purpose of this inspection was sixfold. 1) confirmation of the status of CAMU-destined waste materials generated in 2006 in storage greater than 90-days 2) better refinement of the list of potential constituents for the CAMU groundwater monitoring list; 3) identification of areas of obvious overlap with the corrective action work, which may include excess soils to be removed as part of the demolition activity, floorless buildings or structures likely to flood, utility corridors, the old Wilson Ditch; 4) assessment of the Contingency Plan provisions regarding waste storage locations and documentation of spills during the demolition activity to allow them to be addressed during the Phase II RFI; 5) familiarization with the structure, building specifics, and flue dust characteristics of the blast furnace and Monier flues on which EPA had taken the lead for the characterization and removal; and 6) observation of sample collection procedures.

In a May 1, 2007, email, Ms. Jacobson had requested to review the following documents during this inspection: 1) all analytical data for wastes currently in storage, 2) an inventory of stored wastes, 3) inspection records for waste storage areas for the past year, 4) copies of all work plans pursuant to which the stored wastes were generated, 5) copies of waste manifests and supporting documentation and other disposal records for the last 3 years, including waste stream profiles, 6) current MPDES permit and the last 2 DMRs, 7) Contingency Plan, Spill Control and Containment Plan or other such document which encompasses emergency procedures, evacuation routes, responses to spills and releases, 8) sampling plan for materials targeted for demolition in 2007, 9) MS/DS and other available vendor information for the catalyst in storage; 10) waste profile for bag house flue dust or most current characterization data to allow its reuse in smelting process, 11) historic drawings of the blast furnace flue, description of the flue dimensions, construction specifics, etc., and other descriptive paperwork available on the flue, including the asbestos characterization data, 12) all wastewater treatment system operating logs, including the filter press operating log and waste characterization data for the past 3 years. Mr. Nickel, the Environmental Manager, was out of the office on May 8th and his files were locked and unavailable for review until the evening of May 11th. Mr. Cox made available as many materials as possible. Ms. Jacobson also discussed with Mr. Cox the areas which she wished to view during the field portion of the inspection.

The inspection was conducted in three phases: the review of documents and inspection of the structure interiors on May 8, 2007, the oversight of the collection of an EPA split sample by ASARCO's consultant, Hydrometrics, on May 11, 2007, and additional document review on the evening of May 11th. Additionally, Ms. Jacobson participated in the tour given by ASARCO to the Lewis & Clark County Health Department on May 11th. Photographs, included in the attached Photo Log, were taken during these three events.

Ms. Jacobson reviewed historic drawings of the flue. Mr. Cox acknowledged that some areas of the flue have no bottom because they have been overexcavated during cleanout. He additionally stated that the Monier flue has no floor along the stretch by the Acid Plant cooling tower.

Historically, the flue acted as a settling and cooling chamber between the blast furnace and the stack. It used to be cleaned by hand, then later the facility used a loader for cleanout. The flue dust was recycled through the process. The cadmium levels built up; when they reached 20%, then the flue dust was sent to Encycle in Corpus Christy, Texas. After Encycle shut down, the flue dust was sent to a landfill.

Mr. Cox clarified that Demolition Stage 1, Phase IV, will include removal of those structures necessary for installation of the slurry wall at the former Speiss/Dross Plant area first. He explained that the "excess soils" on the demolition diagrams refers to 2 areas: 1) the Highline Trestle, and 2) the feed hopper to the crushing mill. These are above grade elevations. The 4 foot well to be abandoned was used to keep groundwater low in the old ore storage building. The New Deal building would flood. The Direct Smelt Building is located there now. The proposal is to flow fill this "well" which contains underground utilities, including 6-inch water lines.

Wilson's ditch was here when ASARCO started. Old Wilson Ditch, a pipeline that ran through the center of the plant, was abandoned or cleaned. In the early 1990's, Wilson Ditch was relocated. The old ditch is underground, and a portion was lined and used for storm water. He didn't know how deep, the condition, or whether the old ditch was contaminated. ASARCO has proposed to flow fill the old ditch. The water from the new Wilson Ditch goes to a farmer, Don Burnam, who also maintains the Wilson Ditch head gate.

Mr. Cox discussed the operation of the wastewater plant. Ms. Jacobson was shown and then given a copy of the MPDES Permit renewal application, dated April 6, 2007. The DMRs were in Mr. Nickel's locked files, but Mr. Cox stated that the system was in compliance with its permit. The sanitary sewer treatment plant was shut down in August 2003, and the sanitary treatment building had been cleaned out.

The facility has two, one-million gallon tanks that are used for storage and surge water. There are three winter storage tanks that have a storage capacity of 100,000 gallons. Ms. Jacobson reviewed the HDS—Facility Daily Record Log. The system is batch operated, since there are no process waters to treat after the plant suspended operations. A batch is approximately 100,000 gallons. A run takes approximately one day; but, it typically takes two days to run 100,000 gallons to allow the system to stabilize for each batch. For example, the HDS system is impacted by thermal stratification which occurs when the cold water in the winter storage is introduced to the system. The 1st stage reactor uses no peroxide but sodium hydroxide and not lime for pH adjustment. The front half of the process increases the pH to 10.5. Polishing agents, such as ferric sulfate and sodium sulfide, are added. The filter press runs once every couple of years. It takes sludge to make sludge. Sodium hydroxide doesn't make sludge. The filter press was last run about a year ago. All of the filter press sludge was cleaned out and sent off within 90 days.

Ms. Jacobson asked how releases or spills of material were handled during the demolition activity during the prior years. Mr. Cox provided an overview of the management of dust during the demo process. The contractors would strip the mercury universal point, switches, and thermostats first. They would demo steel, process and size it. Any associated dust would be vacuumed up and put in the ore storage building. Scrap was staged on pads. This staging area for processed scrap was cleaned and swept with a street sweeper; the dust was placed in the ore storage building also. Regarding releases of reportable quantities, spills, and incident reports. Mr. Cox stated that historic Contingency Plans would have referenced recent releases. He and Ms. Jacobson checked the most current Contingency Plan and did not find any such releases listed.

Ms. Jacobson and Mr. Cox also discussed which materials were being sold or reused. The non-fumed slag has a 10 to 15% zinc content, a level which may be of interest for reprocessing. Ash Grove, a cement kiln located in Montana City, takes the fumed slag as an iron source for their cement manufacturing.

Lead byproducts are being sold overseas. H&H is their broker. The lead bullion in the Ringling Building is to be sold. In there are matte, speiss, and dross, which have lead and copper constituents. The gondolas and the GE locomotive in the thaw house will be recycled. The peroxide day tank, which had been used to decolorize the acid, will be used at the Hayden Plant or Blackfoot Mine for onsite water treatment.

Ms. Jacobson reviewed the Acid Plant catalysts MS/DS sheets. The VK 38 catalyst was 5% vanadium pentoxide. The other constituents were potassium sulphate, sodium sulphate, and silica. The VK 48 catalyst was a sulfuric acid catalyst, composed of 7% vanadium pentoxide, 60% silicon oxide, 10% potassium sulfate, and 3% sodium sulfate. There are 120,000 liters of catalyst in the acid plant converter. Upon removal, Mr. Cox indicated that the catalyst will be dumped directly into the CAMU. The catalyst is different sizes, but basically a ring with a hole in it. Historically, it was run through a screen to clean it. It will be sucked into a truck and dumped directly into the CAMU. He stated that there will also be no bagging of the flue dust. There will be a dump truck wetting station over here by the blast stack before the haul trucks proceed to the CAMU. Continuous sweeping of haul roads will be conducted to further control dust and address spills.

There are five sand filters, which had been used to filter out Upper Lake water for use in the cooling tower. The sand screens in the bottom corroded out. Any sand in them, likely a minimal amount will be disposed in the CAMU also. Based on age, Mr. Cox believes the Highline Trestle timbers were treated with creosote.

Ms. Jacobson reviewed a recent asbestos survey. The acid stack, a 200 foot brick and mortar stack, has black mastic in select locations. The thaw house is a brick and mortar building with a transite roof. Exterior brick of the thaw house is covered with a thin black mastic coated in a spray foam insulation and painted blue. The asbestos on the thaw house consists of black mastic asbestos gray transite material, 20,000 SF, 18-22% and black mastic, 17,400 SF, 15-20% asbestos. The baghouse has transite on the roof. The Monier flue likely has no asbestos on it. Following precleaning of the flue, they will then take down asbestos with the brick.

Mr. Cox stated that the portion of the collapsed flue in 2006, which had asbestos containing mastic, was consolidated with the other demolition wastes. He indicated that the facility plans to dispose of the asbestos in the in the southeast corner of the CAMU Cell 2.

Physical Site Inspection

Mr. Cox showed Ms. Jacobson the interiors of a subset of the structures to be demolished in 2007. These included the blast furnace flue, the Monier flue, one of the baghouse cellars, the administration building, the sampling mill, pump house, and the thaw house. She was also shown the four-foot well by the breaking floor, targeted for well abandonment. Mr. Cox also showed Ms. Jacobson the wastewater treatment plant, including the filter press sludge storage area, as well as the truck wash area.

ASARCO had opened portions of the baghouse and Monier flue for Ms. Jacobson's inspection. Mr. Cox used a metal bar as a sounding rod to help determine the portions of the flue which had a floor. As noted in the attached photographs, although the flue had been previously cleaned, flue dust coated the walls and floors and small mounds were periodically encountered along the floor.

During its operation, the thaw house was heated by direct fire. It still contains 6 gondolas, 1 flat car, and one 45-ton GE locomotive. The structure overlies a dirt floor with rails. Ms. Jacobson was shown the lower floor of the Sampling Mill, which also has a dirt floor. During its operation, a 100-lb sample was shipped in on rails then conveyed upstairs via the elevator where a one-pound representative sample was made.

Oversight of the Collection of EPA Split Sample: ASARCO agreed to provide EPA split samples from twenty-one locations being monitored as part of the long-term biannual sampling event. These locations are listed in Attachment 3. Ms. Jacobson joined Hydrometrics staff, Mr. Bryce and Ms. Clum, as they began collecting the sample for Well EH-102, in East Helena, located off Main Street by the park. When Ms. Jacobson arrived, the well had been opened and Hydrometrics was in the process of deconning the sampling line. Four gallons of decon water is generated per well, which consists of one gallon of soapy water, two gallons of tap water, and one gallon of DI water. Ms. Jacobson was shown the sampling form completed for Well DH-2. Hydrometrics monitors and records the following field parameters: DO(mg/l), pH, S.C. and temperature. Dedicated tubing is used in each well. A disposable field filter is used for each sampling point.

Well EH-102 is a flush mounted well with a screw cap and internal locking lid. The total depth measured was 35 feet, with a static water level of 9 feet. Ms. Jacobson observed the collection of the sample for common ions, followed by collection of the other well samples after the field filter was attached. Three casing volumes were purged from the well. It was noted that the sample container was rinsed three times with sample water before collection. Samples were stored in a cooler, following collection. Upon completion of sampling, the well was relocked and the outside lid replaced.

The sampling team then proceeded to the next well, EH-115, located on Riggs Street. Ms. Jacobson was able to watch the collection of an equipment rinse sample following deconning of the pump. The pump is deconned using a total of four gallons of a soapy water rinse, followed by tap water, then DI water. After decon, DI water was run through the pump and a sample for metals was collected.

Site Tour and Additional Document Review

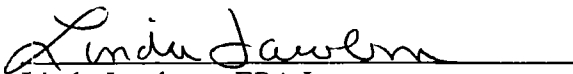
Ms. Jacobson then proceeded to the facility for a meeting with other EPA representatives, a representative from MDEQ, a representative from Lewis and Clark County Health Department, and Mr. Jon Nickel, Environmental Manager for the ASARCO East Helena Plant. Following the meeting, a short tour was conducted.

After the meeting and tour for the Lewis and Clark County Health Department, Mr. Nickel provided additional documents for Ms. Jacobson's review. These included the work plans under which the stored demolition wastes had been generated, the last two DMRs for the wastewater treatment plant, and the inspection records for the CSHB, Bailey Coverall Building, and the Direct Smelt Building. Mr. Nickel stated that he no longer held copies of the historic Contingency Plans but only had the most recent one on file. The waste profiles for the flue dust were stored in the former environmental building. Mr. Nickel promised to send a copy by mail the next day, given the late hour.

Mr. Nickel confirmed that the portion of the collapsed flue which had asbestos-containing mastic on the brick had been consolidated with the other demolition wastes in storage. He further confirmed that ASARCO has no intention of separating the brick with the asbestos-containing mastic from other demolition wastes during the 2007 demolition for placement in the CAMU Cell 2.

Mr. Nickel also confirmed that there had been no sampling required pursuant to the state work plans under which the stored demolition wastes had been generated. There is no sampling plan for the 2007 demolition work either. He agreed to sample the wastes from trucks as it was being hauled to the CAMU and composite similar waste stream samples. He committed to include this sampling proposal as a component of ASARCO's responses to EPA comments on the second CAMU cell design.

Prepared By:


Linda Jacobson, EPA Inspector

Date June 13, 2007

Attachments: Attachment 1—Notice of Inspection Form
Attachment 2—Photo Log and Photographs
Attachment 3—List of Requested Split Samples

ATTACHMENT 1

NOTICE OF INSPECTION FORM

MAY 8, 2007

U.S. ENVIRONMENTAL PROTECTION AGENCY (REGION VIII)

One Denver Place, 999 18th St., Denver, CO 80202-2413

NOTICE OF INSPECTION

PROGRAM

<input checked="" type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Public Law 94-580, as amended. <input type="checkbox"/> Toxic Substances Control Act (TSCA) Public Law 94-469, as amended. <input type="checkbox"/> Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Public Law 92-516, as amended.							
Date	Inspector #	Daily Seq.	Hour IN: 7:10 AM OUT: 3:10 PM	CMO Fac.	Facility name	DUNS #	
					ASARCO	MTD006230346	
Fac. Func.	Invest. Type	FATES Reason	RCRA: Gen. () Transp. () TSD ()	Street			
	CAO			100 Smelter Road			
Facility Representative(s)			Title		City	State	Zip
Blaine Cox			Plant manager		East Helena	MT	59635
Phone # (406) - (227-4098)							
Reason for Inspection: Entry by Consent: <input checked="" type="checkbox"/> <u>QSA</u> Warrant: () <input type="checkbox"/> To determine the extent of compliance with the above referenced law, which may require the collection of samples, documents, and/or photographs. <input type="checkbox"/> Other (Specify) _____ Violations of above referenced law are suspected from information or complaint. Yes () No ()							
Samples, Documents, and/or Photos collected (describe below)						Medium	Date to Lab
1. 1 Copy April 6, 2007 MPOES Permit Application Update							
2. 10 drawings of Monier & baghouse flue							
3. 11 photos							
4.							
5.							
6.							
Samples requested and received by facility: <input checked="" type="checkbox"/> Yes () No If yes: () Duplicate. () Split. <input checked="" type="checkbox"/> Photos (To be received when processed.)							
This inspection has revealed the following probable violations of EPA laws or regulations. <p align="center">None observed.</p>							
The facts established by this inspection will be reviewed by personnel in the EPA Regional Office. A final determination of your facility's compliance with EPA regulations will be made as a result of this review. The review may reveal additional violations.							
Receipt of this Notice of Inspection is acknowledged. <p align="center"><i>Blaine Cox</i> BLAINE COX</p>				Signature of Lead Inspector <p align="center"><i>Linda Jansen</i></p> Assisting Inspectors (EPA/Contr./State)			
(Signature of facility representative)							

ATTACHMENT 2

PHOTO LOG AND PHOTOS

ASARCO EAST HELENA SMELTER

MAY 8 and 11, 2007

ATTACHMENT 2

PHOTO LOG

PHOTO NUMBER	DESCRIPTION	DATE
1	Inside Baghouse Flue (note dust caked on walls)	May 8, 2007
2	Piles of Flue Dust on Floor of Flue	May 8, 2007
3	4 Foot Well Targeted for Closure	May 8, 2007
4	Inside Baghouse Cellar	May 8, 2007
5	Thaw House Scheduled for 2007 Demolition	May 8, 2007
6	Truck-Mounted Sampling Unit	May 11, 2007
7	Truck-Mounted Sampling Unit	May 11, 2007
8	Decon Water Being Discharged on Ground	May 11, 2007
9	Well 102 Opened for Sampling	May 11, 2007
10	Collection of Common Ions Sample	May 11, 2007
11	Attaching Field Filter	May 11, 2007
12	Storage of Labeled Collected Samples in Cooler	May 11, 2007
13	Deconing Pump: Soap, Tap, DI Water	May 11, 2007
14	Well EH-115 Opened for Sampling	May 11, 2007
15	Equipment Rinsate Sample Collection	May 11, 2007
16	Preparing to Sample EH-115 on Riggs	May 11, 2007
17	Flue Structure Adjacent to Former APSD	May 11, 2007
18	Former APSD in Foreground, Flue Structure, Stacks in Background	May 11, 2007
19	3 Stacks and a Flue	May 11, 2007
20	Upper Lake to Left, Remaining Structures to Right	May 11, 2007
21	ASARCO Lake	May 11, 2007
22	Flue Structures to Be Demo'd in 2007	May 11, 2007
23	Highline Trestle	May 11, 2007
24	Highline Trestle Storage Bin; Note: Partial Dirt Floor	May 11, 2007
25	Winter Storage Tanks, Wastewater Treatment Building, Temporary Cap	May 11, 2007
26	Bag Houses and Stack	May 11, 2007

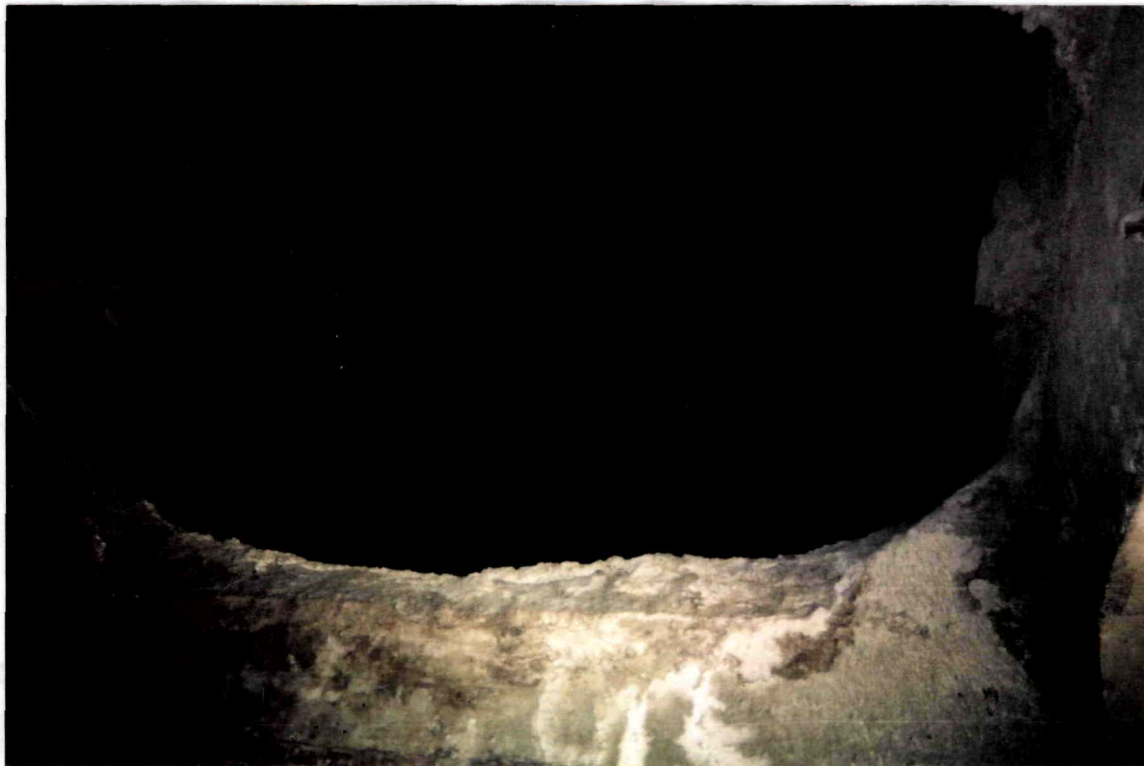


Photo 1; Facility: ASARCO East Helena Smelter; Subject: Inside Baghouse Flue (note dust caked on walls); Photographer: Linda Jacobson; Date: May 8, 2007



Photo 2; Facility: ASARCO East Helena Smelter; Subject: Piles of Flue Dust on Floor of Flue; Photographer: Linda Jacobson; Date: May 8, 2007



Photo 3; Facility: ASARCO East Helena Smelter; Subject: 4 Foot Well Targeted for Closure;
Photographer: Linda Jacobson; Date: May 8, 2006

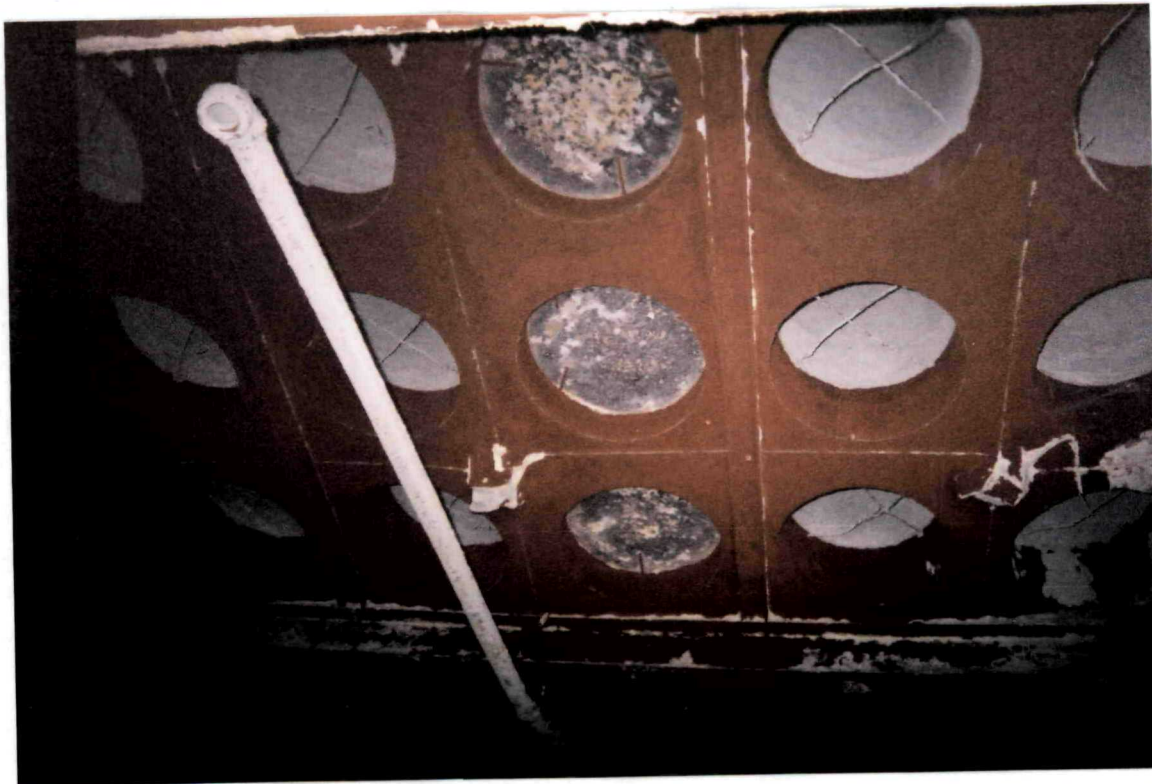


Photo 4; Facility: ASARCO East Helena Smelter; Subject: Inside Baghouse Cellar;
Photographer: Linda Jacobson; Date: May 8, 2007



Photo 5; Facility: ASARCO East Helena Smelter; Subject: Thaw House Scheduled for 2007 Demolition; Photographer: Linda Jacobson; Date: May 8, 2007



Photo 6; Facility: ASARCO East Helena Smelter; Subject: Truck-Mounted Sampling Unit; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 7; Facility: ASARCO East Helena Smelter; Subject: Truck-Mounted Sampling Unit; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 8; Facility: ASARCO East Helena Smelter; Subject: Decon Water Being Discharged on Ground; Photographer: Linda Jacobson; Date: May 11, 2007

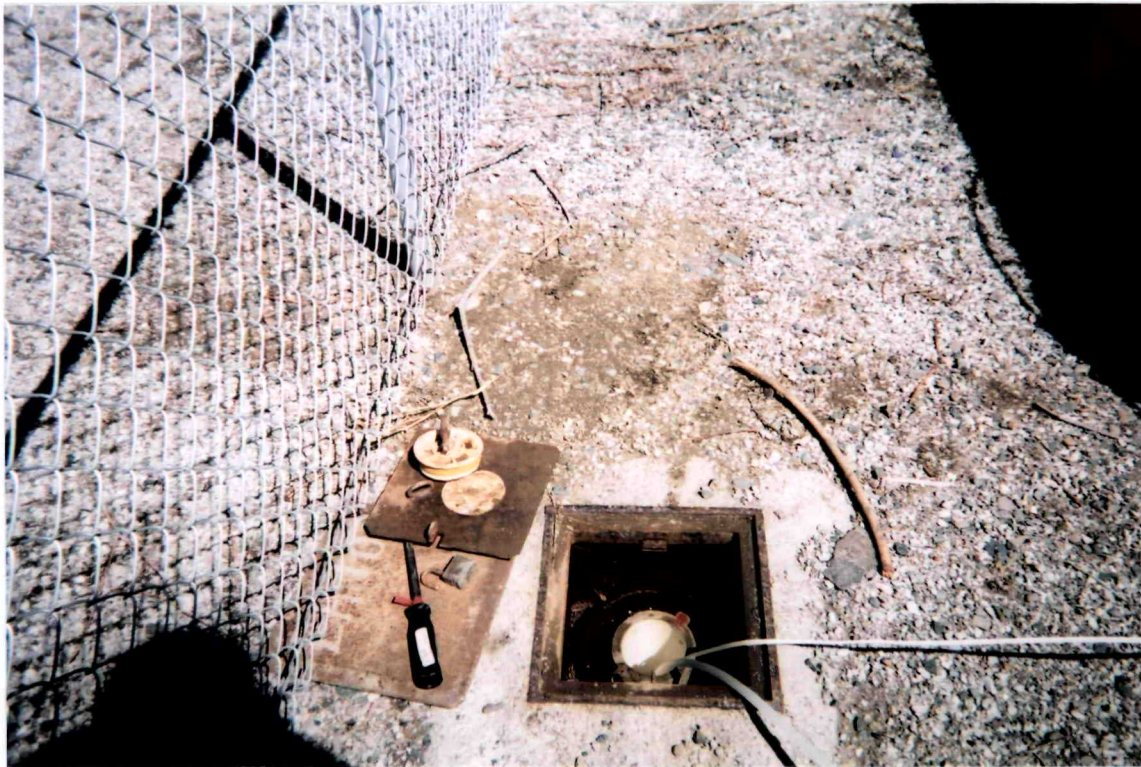


Photo 9; Facility: ASARCO East Helena Smelter; Subject: Well 102 Opened for Sampling; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 10; Facility: ASARCO East Helena Smelter; Subject: Collection of Common Ions Sample; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 11; Facility: ASARCO East Helena Smelter; Subject: Attaching Field Filter; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 12; Facility: ASARCO East Helena Smelter; Subject: Storage of Labeled Collected Samples in Cooler; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 13; Facility: ASARCO East Helena Smelter; Subject: Deconing Pump: Soap, Tap, DI Water; Photographer: Linda Jacobson; Date: May 11, 2007

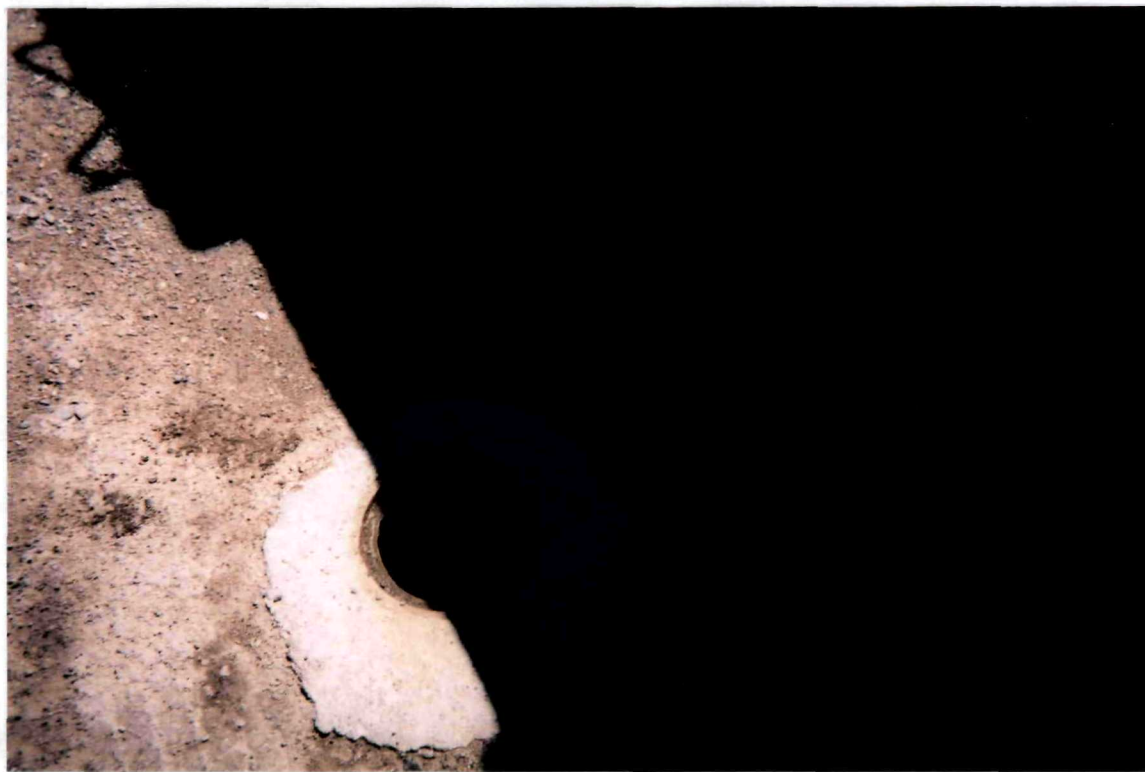


Photo 14; Facility: ASARCO East Helena Smelter; Subject: Well EH-115 Opened for Sampling; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 15; Facility: ASARCO East Helena Smelter; Subject: Equipment Rinsate Sample Collection; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 16; Facility: ASARCO East Helena Smelter; Subject: Preparing to Sample EH-115 on Riggs; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 17; Facility: ASARCO East Helena Smelter; Subject: Flue Structure Adjacent to Former APSD; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 18: Facility: ASARCO East Helena Smelter; Subject: Former APSD in Foreground, Flue Structure, Stacks in Background; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 19; Facility: ASARCO East Helena Smelter; Subject: 3 Stacks and a Flue ; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 20; Facility: ASARCO East Helena Smelter; Subject: Upper Lake to Left, Remaining Structures to Right; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 21; Facility: ASARCO East Helena Smelter; Subject: ASARCO Lake; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 22; Facility: ASARCO East Helena Smelter; Subject: Flue Structures to be Demo'd in 2007; Photographer: Linda Jacobson; Date: May 11, 2007

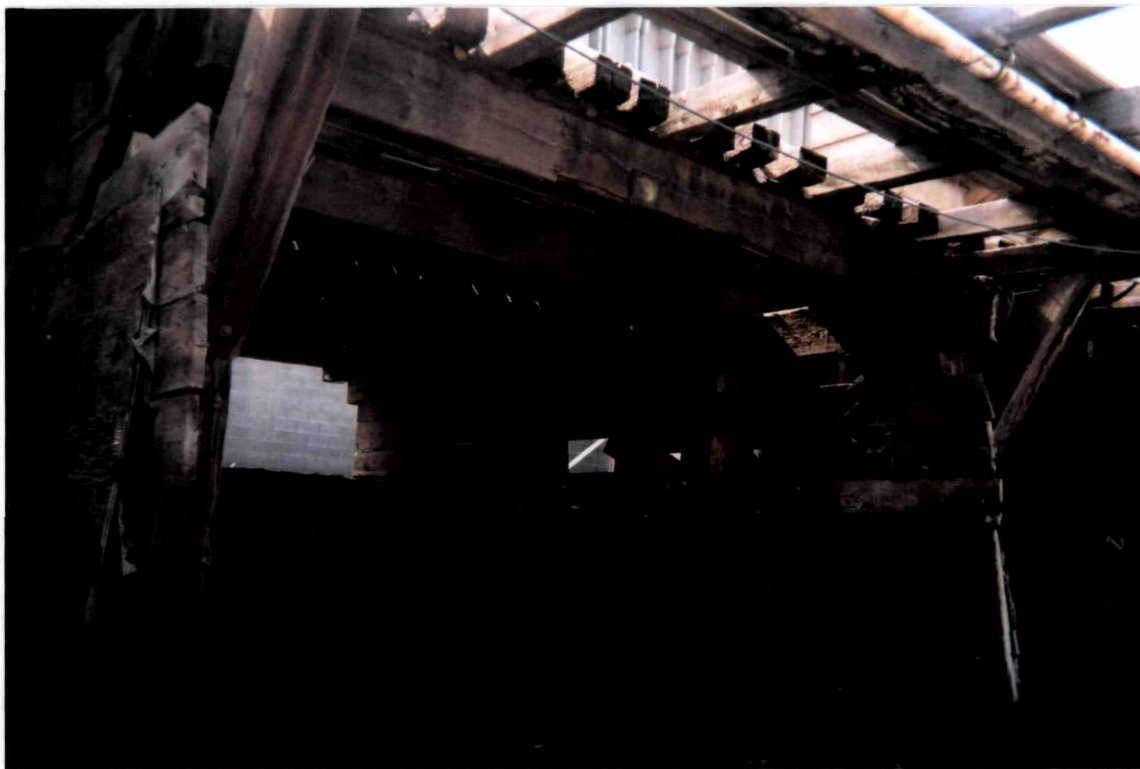


Photo 23; Facility: ASARCO East Helena Smelter; Subject: Highline Trestle; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 24; Facility: ASARCO East Helena Smelter; Subject: Highline Trestle Storage Bin; Note: Partial Dirt Floor; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 25; Facility: ASARCO East Helena Smelter; Subject: Winter Storage Tanks, Wastewater Treatment Building, Temporary Cap; Photographer: Linda Jacobson; Date: May 11, 2007



Photo 26; Facility: ASARCO East Helena Smelter; Subject: Bag Houses and Stack; Photographer: Linda Jacobson; Date: May 11, 2007

ATTACHMENT 3

LIST OF REQUESTED SPLIT SAMPLES

LIST OF REQUESTED SPLIT SAMPLES

- 1) Jensen residence
- 2) Corbett residence
- 3) 1 of the trailer park wells
- 4) 1 of the surface water points
- 5) EH-114
- 6) EH-116
- 7) EH-113
- 8) EH-112
- 9) EH-106
- 10) EH-111
- 11) EH-115
- 12) DH-64
- 13) EH-101
- 14) EH-52
- 15) EH-54
- 16) DH-52
- 17) EH-58
- 18) DH-34
- 19) EH-102
- 20) EH-59
- 21) EH-117